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U. S. DEPARTMENT OF AGRICULTURE

UNITED STATES DEPARTMENT OF AGRICULTURE

Production and Marketing Administration

MINIMUM TENTATIVE REQUIREMENTS

FOR

Facilities, Operating Procedure and Sanitation

IN

Egg-Breaking and Egg-Drying Plants

January 1946

JUN 1 1 1946

APPROVED MATERIALS OF CONSTRUCTION

	Stainless steel	Monel metal	Aluminum	White metal	Bronze	Tin plate	Lithcote or plasticote	Glass lined	Galvanized iron	Forged steel	Pressed composition board	Porcelain tile	Hardwood (cypress)
Shell egg buckets	A	A	A	A		A			A				
Trays and racks	A	A	A			T							
Knives and separators	A	A											
Cups	A	A											
Liquid egg buckets	A	A	A										
Dump tank, churns, draw-off tanks & drums	A	A				T	T						
Low pressure pumps	A	A		T	T								
Strainers	A	A											
Surface, tubular, plate coolers	A	A				T							
Liquid egg lines	A	A											
Frozen egg crushers	A	A				T							
Holding tanks and vats	A	A				T	T	T					
Preheating units	A												
High pressure pumps	A	A											
High pressure lines	A	A											
High pressure fittings	A	A								T			
Drying chambers	A	A				T	T		T		T	T	
Powder conveyors and packing equipment	A	A				T	T		T				
Sifter screens	A	A											
Fermentation tanks	A	A						A					A
Albumen drying pans, trays or belts	A	A	A			T							
Albumen scrapers	A	A											
Albumen curing racks	A	A				A			A				

Key: T-Temporarily acceptable due to nature of coating.

A-Acceptable

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FACILITY REQUIREMENTS

I. General Plant

1. Location of the plant should be in an area free from strong, foul odors or excessively dust and/or smoke-laden air.

2. Premises shall be free from conditions which constitute a source of insects, rodents, vermin or odors.

3. Buildings:

   a. Building shall be in good repair.

   b. Doors and windows:

      1. Doors a nd windows that open to the outside shall be protected against the entrance of flies and insects during breeding seasons.

      2. Doors leading into rooms where edible product is processed or into toilet and dressing rooms shall be equipped with automatic closing devices.

      3. Windows that are opened and screen doors and windows leading into rooms where edible product is processed shall be equipped with approved filters.

   c. Sewer drains shall be equipped with traps to prevent the discharge of foul odors.

   d. Personnel facilities, including toilets, lavatories (lockers) and dressing rooms shall be adequate and meet state requirements for food processing plants. Toilet rooms shall not open directly into any rooms where edible product is processed or stored. Separate ventilation shall be provided for toilet rooms. Lavatories shall be provided with hot water. All toilet and lavatory facilities shall be connected to sewers.

   e. Storage rooms shall be provided for personnel and plant supplies.

II. Shell Egg Storage

1. Shell egg storage, either on or off the premises, shall be sufficient to and capable of pre-cooling all shell eggs to meet the temperature requirements for liquid eggs at time of breaking.

III. Candling Room

1. The room shall be adequately darkened and arranged so as to permit frequent removal of inedible or loss eggs, excess packing material and trash.

2. The floor should be water-proof composition and shall be constructed in a manner that will allow thorough cleansing.

3. Ventilation, preferably by means of an exhaust fan, shall provide for the rapid removal of objectionable odors.

4. Candling devices of an approved type, to enable candlers to detect inedible and dirty eggs, shall be provided.

5. Suitable containers shall be provided for inedible eggs.

6. Suitable containers shall be provided for trash.

IV. Egg Washing Room

1. This operation shall be separate from the breaking, drying and sterilizing operations. It shall be well lighted and floors shall be of water-proof composition and shall be constructed in a manner that will allow thorough cleansing. Ventilation, preferably by means of an exhaust fan, should provide for the removal of objectionable vapors and odors.

2. A three-section metal tank or equivalent or a mechanical egg washing unit that has been approved by an authorized representative of the U. S. Department of Agriculture shall be provided.

V. Breaking Room

1. The room shall be well lighted.

2. Ceiling and walls shall have a tile, enameled, painted or other water-resistant type surface.

3. Floor shall be of water-proof composition and free from cracks or rough surfaces. Intersections with walls shall be impervious to water. Ample drainage shall be provided.

4. Ventilation shall provide for:

   a. Sufficient intake of odorless filtered air to cause a positive pressure within the room.

   b. Sufficient exhaust to cause a prompt and continuous removal of foreign odors.

5. Lavatories, preferably equipped with foot or knee operated valves, an adequate supply of potable hot and cold water, paper towels and odorless soap or equivalent shall be provided.

6. Tables and receiving shelves shall be of approved metal construction and surfaces shall be smooth and without open seams to allow thorough cleansing.

7. Shell egg conveyors, if used:

   a. Metallic flight or apron type shell egg conveyors shall be constructed so that they can be continuously rinsed and dried while in operation.

   b. Non-metallic belt type shell egg conveyors shall be of water-proof composition and constructed so that they can be continuously rinsed and squeegeed while in operation.

   c. Overhead conveyors shall be installed so that they do not pass directly over liquid egg unless the liquid egg is adequately protected from contamination.

8. Trays equipped with racks, knives, cups, separators, spoons, buckets, dump tanks, churns, draw-off tanks, pumps and liquid egg lines, shall be of approved construction.

   a. All liquid egg containers, including cups and buckets, shall be free from leaks and excessive dents, rust spots and seams which make cleaning difficult.

   b. Frozen egg cans are not acceptable as liquid egg buckets.

9. A metal top inspection table shall be provided for the examination of questionable liquid eggs. A suitable covered container shall be stationed near by for receipt of rejected liquid eggs.

10. Strainers or centrifugal clarifiers of approved construction shall be provided for the effective removal of meat spots, shell particles and foreign materials.

    a. Minimum requirements for straining. Either a 16-mesh (U. S. Bureau of Standards or equivalent) gravity or pressure type strainer or a centrifugal clarifier.

    b. Recommendations in addition to minimum requirements: A gravity type dump tank strainer for the removal of large shell particles.

    c. Hashers may be used only when followed by a centrifugal clarifier or preceded by a 16-mesh (U. S. Bureau of Standards or equivalent) strainer.

    Note: The 16-mesh U. S. Bureau of Standards equivalent is .046" for width of opening on wire cloth strainers or approximately .0625" for diameter of opening on perforated strainers.

11. Separate churn or draw-off rooms shall meet the comparable requirements that are listed under Breaking Room.

12. Washing and Sterilizing Room

a. The room should be a separate room and shall be well lighted.

b. Ceiling and walls shall have a tile, enameled, painted or other water resistant type surface.

c. Floor shall be of water-proof composition and free from cracks or rough surfaces, and shall be adequately drained.

d. Ventilation shall provide for sufficient exhaust to cause a prompt and continuous removal of foreign odors and vapors.

e. Service shelves shall be of approved metal construction and surfaces shall be smooth and without open seams.

f. An adequate supply of potable hot and cold water shall be provided.

g. A three-section metal tank or its equivalent shall be provided for washing, rinsing and sterilizing operations; however, a four-section tank is recommended to allow rinsing of equipment prior to washing.

h. Sanitary drainage racks, capable of holding, without nesting, all breaking trays, racks, knives, cups and liquid egg pails shall be provided.

i. Test kits shall be provided for testing strength of bactericidal solutions.

j. Separate facilities shall be provided for washing, rinsing and sterilizing shell egg containers and leaker trays.

VI. Liquid Egg Cooling

1. Liquid egg cooling units shall be of approved construction and shall be sufficient and capable of cooling all liquid eggs to meet the temperature requirements for liquid eggs prior to drying or freezing.

2. Surface type coolers shall be fitted with cover unless located in a separate room under sanitary conditions.

VII. Liquid Egg Holding

1. All tanks, vats, drums or cans used for holding liquid eggs shall be of approved construction, located in rooms under sanitary conditions and fitted with covers.

2. Liquid egg holding tanks or vats shall be equipped with an agitator.

3. Inlets to holding tanks or vats shall be of no-foam construction.

f. Gaskets, if used, shall be of a sanitary type.

VIII. Freezing Rooms

1. Freezing rooms, either on or off the premises, shall be sufficient and capable of freezing all liquid egg products in accordance with the freezing requirements as set forth under operating requirements.

2. Slats or floor racks of not less than 1 inch in thickness shall be provided.

3. Fans should be provided to guarantee air circulation.

IX. Defrosting

1. A frozen egg crusher and defrosting tanks or vats of approved construction shall be provided to speed the defrosting of frozen eggs.

2. Service tables shall be of approved metal construction and surfaces shall be smooth and without open seams to allow thorough cleansing.

3. Squeegees shall be provided for removing adhering egg meat from containers.

X. Drying Plants

1. Spray Process - Drying Units.

a. Shall be continuous discharge types.

b. Shall be approved construction and materials.

1. Construction shall allow for thorough cleaning.

2. Surfaces shall be smooth and without open seams.

c. Shall be equipped with approved air intake filters.

d. Shall be equipp ed with intake and exhaust thermometers.

e. Air shall be drawn ofrom sources free from foul odors or excessive dust and dirt.

f. Indirect heat or the use of a n approved premixing device or other approved device for securing complete combustion on direct-fired gas units shall be required. Premix type

burner, if used, shall be equipped with approved air filters at blower intake.

g. High pressure pump heads and lines shall be of stainless steel construction and construction shall allow for thorough cleansing.

h. Preheating units, if used, shall be of stainless steel construction and shall be capable of heating liquid eggs to a temperature of not less than 135° F.

i. Powder conveying equipment shall be of approved construction and construction shall allow for thorough cleansing.

j. Sifters shall be of approved construction and sifting screens shall be no coarser than the opening size specified for No. 16 mesh (U.S. Bureau of Standards). Sifters must be so constructed that accumulations of large particles or lumps of dried egg can be easily removed from sifter screens at hourly intervals or can be discharged continuously while the sifter is in operation.

k. Powder cooling equipment shall be provided and capable of cooling all powder to a temperature requirement for dried egg powder (85° or less) at time of packaging.

2. Flake Process - Drying Units:

a. Shall be constructed in a manner which will allow thorough cleansing and equipped with approved intake filters and intake thermometers.

b. Intake air source shall be free from excessive dust or dirt.

c. Premix type burners, if used, shall be equipped with approved air filters at blower intake.

d. Fermentation tanks, drying pans, trays or belts, scrapers and curing racks if used, shall be constructed of approved material and in a manner which will allow thorough cleansing.

e. Equipment used for pulverizing pan dried albumen, shall be constructed of approved materials and in a manner which will permit thorough cleansing.

f. Sifting screens shall be constructed of approved materials, in a manner which will permit thorough cleansing and in accordance with the specifications for which ever type of albumen it is desired to produce.

3. Drying Rooms and Packaging Room (on or off premises):

a. The room shall be well lighted.

b. Ceilings and walls shall have a tile, enameled, painted or other water resistant type surface.

c. Floor should be of water-proof composition and free from cracks or rough surfaces which form pockets for accumulation of water or dirt. Intersections with walls shall be impervious to water. Ample drainage shall be provided.

d. All packaging equipment and accessories which come into contact with the dried product shall be of approved construction. Service tables shall be of approved metal construction. All metal surfaces shall be smooth and without open seams to permit thorough cleansing.

e. Storage racks or cabinets shall be provided for the storing of drying room and packaging room accessories and tools.

XI. Dried Egg Storage

1. Dried egg storage, either on or off the premises should be sufficient and capable of maintaining atmospheric temperatures in accordance with recommended operating requirements.

OPERATING REQUIREMENTS

I. General Plant

1. Premises shall be kept free from refuse, rubbish, waste materials and other materials not needed for immediate operations, and any conditions such as puddles of water and filthy refuse containers which may constitute a source of odors or a harbor for insects and rodents.

2. Buildings shall be kept free from refuse rubbish, waste materials and other materials not currently needed and any condition which may constitute a source of odors, such as puddles of water, dirt refuse containers, etc.

   a. Sewer drains must be kept open.

   b. Doors and windows which are opened frequently shall be kept screened against the entrance of insects or flies during breeding seasons but if opening into rooms where edible product is exposed they shall be provided with approved filters.

   c. All odds and ends and seasonal tools and equipment which are not currently used, shall not be allowed to remain in the rooms where edible products are processed or stored.

   d. Toilet and dressing rooms shall be kept clean and free from odors.

   e. If the breaking and drying operations are conducted as a part of a produce house or similar establishment, all trash, manure and filth shall be removed from such establishments at least daily. All refuse containers shall be washed and disinfected daily.

3. Personal Health

   a. No persons afflicted with any infectious, contagious or cummunicable disease, or who is a carrier of such disease, shall be permitted to come in contact with eggs in any form or with equipment used to process such eggs.

   b. Each plant employee should have thcrough medical examination. New employees should not work more than one week without medical examination. These requirements shall not excuse failure to comply with applicable State Laws.

   c. All workers coming into contact with liquid or dried eggs, containers or equipment, shall wear clean uniforms.

   d. All plant personnel shall wash their hands before beginning work, and upon returning to work after leaving the work room.

   e. Expectorating, or other unsanitary practices shall not be permitted and should be reported to the management immediately.

f. Use of tobacco in any form by workers coming in contact with the egg products shall not be permitted while on duty.

g. Hair nets or caps shall be properly worn by all employed in breaking and packaging rooms.

II. Shell Egg Storage

1. Shell egg storage rooms shall be held at temperatures necessary to meet temperature requirements for liquid egg at time of breaking.

2. Compliance with temperature requirements applying to shell eggs shall be considered as satisfactory only if all units meet the requirements.

3. Shell egg storage rooms shall be kept clean and free from objectionable foreign odors.

4. Shell egg storage should be kept painted or white washed and free from mold growth.

III. Candling Room

1. Candling rooms shall be kept clean, free from cobwebs, dust, objectionable odors and excess packing material.

2. Candling room floors and benches shall be thoroughly cleansed daily.

3. Trash and/or inedible containers shall be removed from candling room frequently and shall be washed or rinsed after each use and shall be washed, rinsed and disinfected at the end of each shift.

4. Duck, turkey, guinea and goose eggs shall not be broken for drying or freezing purposes.

5. Shell eggs received in cases having strong odors such as kerosene, gasoline and other odors of a volatile character, shall be candled and broken separately to determine their acceptability for egg meat purposes.

6. Each individual egg shall be candled in a manner approved by an authorized representative of the U. S. Dept. of Agriculture and shall be classified as follows:

a. All loss or inedible including black, white or mixed rots, green or bloody whites, stuck yolks, moldy eggs, large blood or meat spots, developed embryos at or beyond the blood ring stage, and any other eggs which are filthy or decomposed, shall be placed in a separate container and denatured.

b. Clean checks which are apt to be smashed in the shell egg containers, shall be placed into trays (not more than 36 eggs per tray) and be transferred promptly to the breaking room to be broken out by specially trained personnel.

c. All sound shell eggs with loose adhering dirt shall be placed in separate containers.

1. Such eggs shall be washed, rinsed and sterilized if washed by hand.

2. If washed by mechanical device, such equipment and methods shall be approved by an authorized U.S.D.A representative.

3. Washed eggs shall be dried and full candled prior to breaking to remove inedibles, checks and leakers.

4. Dirty eggs shall not be washed in breaking or sterilizing rooms or any room where edible product is processed.

5. Washed eggs shall be broken promptly after drying or held in a cooler until broken.

6. Washing of stained eggs is not required.

d. All edible eggs shall be carefully placed on conveyors or in buckets in a manner which will prevent unnecessary breakage and shall be transferred promptly to the breaking room.

e. Eggs shall be handled in a manner to minimize sweating prior to breaking.

f. Egg products produced from leakers, dirty checks or unclean eggs with loose adhering dirt or eggs other than from the domestic chicken hen when judged to be fit for human food may be processed but not identified with the Department legend.

IV. Breaking Room

1. The breaking room shall be kept in a dust-free clean condition and free of flies, insects and rodents.

a. A positive pressure of odorless filtered air shall be maintained in the breaking room during operations.

b. Exhaust shall provide for the prompt and continuous removal of foreign odors.

c. Floor shall be kept clean and reasonably dry during breaking operations and free of egg meat and shells.

2. Shell egg containers coming into the breaking room shall be so handled that they do not pass directly over or come in contact with liquid egg, liquid egg containers, or drip trays.

3. Belt type shell egg conveyors shall be continuously rinsed and squeegeed. Flight and apron type shell egg conveyors shall be continuously rinsed and dried. Rinse shall be continuous spray of cool water (clear) or a bactericidal bath which shall be changed every two hours.

4. All breaking room personnel must thoroughly wash their hands with odorless soap (or equivalent) and water each time they enter the breaking room and after breaking an inedible egg just prior to receiving clean equipment. Perfumes and nail polish shall not be used by breakers.

5. Paper towels or tissues shall be used at breaking tables but shall not be re-used; cloth towels shall not be permitted.

6. Breakers shall take a complete set of clean cups, knives, racks, trays, and spoons, when starting work and after recess and lunch periods.

7. Not more than three eggs shall be broken into one cup; if cups are small not more than two eggs shall be broken into each cup. Cups shall not be filled to over-flowing.

8. Each cup of egg meat shall be carefully examined for appearance and odor before emptying and shall be dumped into a liquid egg bucket which shall be re-examined by specially trained personnel before emptying into dump tank.

9. Shell particles and other foreign material accidentally falling into the cup shall be removed with the use of a clean spoon. Breakers shall keep their fingers out of cups at all times.

10. Whenever an inedible egg is broken, the drip tray, rack, cups, knife and spoon shall be replaced with clean equipment except that only the cup need be exchanged when blood spots, bloody whites or blood rings are encountered.

11. Inedible and loss eggs are defined to include black rots, white rots, mixed rots, green whites, bloody whites, crusted yolks, stuck yolks, large blood and meat spots, embryos developed at or beyond the blood ring stage, moldy eggs, sour or musty eggs and any other filthy and decomposed eggs.

12. The contents of any cup containing one or more inedible and/or loss eggs shall be rejected and placed in an identified container.

13. Cups containing questionable eggs shall be re-examined by specially trained personnel for final rejection or acceptance.

14. All inedible egg liquid must be placed in a clearly identified container containing a denaturant. This container shall be kept adjacent to or in the sterilizing room or near the inspection table and shall be removed from breaking or sterilizing room at frequent intervals.

15. Contents of drip trays shall be emptied into a cup and smelled carefully before pouring into liquid egg bucket. Drip trays shall be emptied at least once for each fifteen dozen eggs or the equivalent thereof.

16. Liquid egg white recovered through the use of Irish Sucker Systems shall not be incorporated into Department-identified products unless such units have written approval.

17. Liquid eggs recovered from shell egg containers must be discarded as inedible.

18. Clean checks shall be broken in one end of the room, preferably near the washing and sterilizing room.

19. If eggs as described in Section 5, paragraph f are broken to produce substandard liquid they shall be broken at a separate table and the product properly identified by the firm.

20. All liquid egg containers must be kept off the floor at all times.

21. Liquid containers shall not pass through the candling room.

22. Test kits shall be used to determine the strength of bactericidal solutions.

23. The person detailed to rinse or flush dirty utensils shall not handle sterilized equipment until he has washed his hands.

24. All leaker trays shall be washed and sterilized before returning to the candling room.

25. Shell egg containers shall be washed whenever dirty and washed, rinsed and sterilized at the end of each shift and shall be drained before re-using.

26. Belt, flight and apron type shell egg conveyors shall be washed, rinsed and sterilized at the end of the shift.

27. Cups, knives, racks, separators, trays, spoons and liquid egg pails shall be washed, rinsed and sterilized at least every two hours in rotation. At the end of the shift this equipment shall be washed and rinsed and immediately prior to use it shall be immersed in a bactericidal solution.

28. Sterilized utensils shall be drained on drain racks and shall not be nested.

29. Dump tanks, churns, draw-off tanks, pumps, liquid egg lines and surface, tubular, or plate coolers, shall be flushed at the lunch period and dismantled, washed, rinsed and sterilized as soon as possible after each shift.

    a. Such equipment shall not be reassembled more than two hours prior to use.

    b. Shall be flushed with a bactericidal solution for not less than one minute prior to placing in use.

30. Strainers, clarifiers and other devices used for the removal of shell particles and other foreign materials shall be washed, rinsed and sterilized each time it is necessary to change or at least every two hours.

31. Breaking room processing equipment shall not be stored on the floor.

32. Metal frozen egg containers shall be washed, rinsed and sterilized prior to filling.

33. Liquid holding vats or tanks shall be thoroughly rinsed with cool water under pressure, washed and rinsed after each use and sterilized immediately prior to re-use.

34. Drums, cans and tank trucks used to hold or transport liquid eggs for drying or freezing, shall be washed, rinsed and sterilized after each use and sterilized just prior to use.

35. Tables shall be washed and scrubbed at the end of each shift, sprayed with a sterilizing solution, and rinsed or flushed with water under pressure.

36. Shell conveyors and shell containers shall be cleansed and sterilized daily.

37. Inedible liquid egg containers shall be washed, rinsed and sterilized after each use.

V. Liquid Cooling

1. Liquid egg storage rooms including surface cooler and holding tank room shall be kept clean, free from foreign odors and condensation.

2. All shell eggs shall be precooled to a temperature which will produce liquid eggs at less than 60° F. at time of breaking.

3. All liquid whole egg and plain yolks shall be cooled to a temperature of less than 45° F. within one hour after breaking and held at that temperature or less until frozen, dried or delivered to consumer. If held more than eight hours they shall be reduced to a temperature of less than 40° F. and held at that temperature or less until frozen, dried or delivered to consumer.

   If liquid cooling facilities are not provided, shell egg temperature shall be such that the a bove liquid egg temperatures will be produced at time of breaking.

4. Liquid whites that are to be frozen and yolk blends such as salted, sugared, etc. shall be produced at temperatures not exceeding 60° F. and shall be placed in sharp freezing facilities as quickly as possible but within one hour after breaking. If handled otherwise the temperature requirements of Paragraph 3 shall apply.

5. Compliance with temperature requirements applying to liquid egg shall be considered as satisfactory only if all portions of the products meet the requirements.

6. Liquid eggs shall be held in containers which are covered a t all times.

7. Surface coolers must be kept covered at all times unless located in a separate room under sanitary conditions.

8. Agitators shall be operated in a manner which will minimize the production of foam.

9. If ice is used as an emergency refrigerant, it must be certified by local or state board of health.

VI. Freezing

1. Freezing rooms shall be kept clean and free from foreign odors.

2. Freezing rooms shall be maintained at temperatures that will produce a solidly frozen and/or satisfactory condition within 72 hours after product has been placed in freezing facilities.

3. Packages shall be stacked so as to permit circulation of air around each individual container and shall not be stacked directly on the floor but on slats or floor racks of not less than one inch in thickness.

4. The outside of liquid egg containers shall be clean a nd free from evidence of liquid egg.

5. Frozen egg not identified by the Department legend shall be stored in a specifically designated and segregated section of the storage room and each package shall be marked or identified properly.

VII. Defrosting

1. Frozen whole eggs and yolks shall be turned into a liquid state by mechanical means and in a sanitary manner as quickly as possible after the defrosting process has begun.

   a. The frozen product may be tempered or partially defrosted not to exceed 48 hours at room temperatures not higher than 40° F. or not to exceed 24 hours at room temperatures above 40° F. providing that no portion of the liquid produced shall exceed 60° F.

   b. The liquid product resulting from the defrosting process shall be reduced to 45° F. or less and held at that temperature unless such liquid is to be held eight hours or longer in which case, the temperature shall be 40° F. or less until time of drying. This liquid shall not be held more than 16 hours prior to drying.

2. Frozen whites used in the production of dried albumen may be defrosted at room temperature.

3. Each container of frozen eggs shall be checked for condition and odor just prior to being emptied into the crusher or receiving tank.

   a. Frozen eggs which have questionable or off odors (sour, musty, fermented or decomposed odors) shall not be incorporated in the liquid to be dried.

4. Sanitary methods shall be used in handling containers, extracting semi-frozen egg and in removing adhering egg liquid.

   a. A rubber squeegee may be used to remove adhering liquid egg from the container.

   b. Persons assigned to this work may not be assigned to other work to be done at the same time.

   c. Other methods of removing this liquid egg must be approved by authorized representatives of the U.S. Department of Agriculture.

   d. The pouring of water from one container to another to rinse out containers shall not be permitted.

   e. Emptied cans shall not be stacked one on the other while waiting final cleansing of liquid.

   f. Paper or fiber frozen egg packages shall not be immersed in water to speed defrosting.

5. Crushers and other equipment used in defrosting operations shall be dismantled at the end of each shift and shall be rinsed, washed, rinsed and sterilized.

   a. Where crushers are used intermittently, they shall be flushed after each use and again before re-using.

b. Floors and work tables shall be kept clean.

VII. Spray Process Drying

1. The drying room shall be kept in a dust free, clean condition at all times and shall be free of flies, insects and rodents.

2. Preheating units, if used, shall produce a liquid egg temperature of not less than 135° F.

3. Liquid egg lines including high pressure pumps, low pressure pumps, homogenizers and pasteurizers shall be flushed after each days run, dismantled, washed and flushed thoroughly with plain water.

   a. Within two hours prior to resuming operations, equipment shall be reassembled and flushed with bactericidal solution for not less than one mintute.

   b. Drier should be started on water each day prior to drying liquid egg.

   c. Spray nozzles, orifices, cores or whizzers shall be washed, rinsed and sterilized immediately after being removed.

4. Definition of the product:

   a. Primary powder: is that powder which is continuously removed from the primary or main drying chamber while the drying unit is in operation.

   b. Secondary powder is that powder which is removed continueusly or at least at hourly intervals from the secondary chambers and/or bag collectors while the drying unit is in operation.

   c. Sweep-down powder is that powder which is recovered in the brush-down process from the primary or secondary chamber, bag collector and conveyors.

   d. Dust-house powder is that powder which accumulates in the dust house.

5. Blending of the product.

   a. Powder shall be blended uniformly throughout the operation.

   b. Secondary-powder may be blended with primary powder either continuously or withon one hour after its production.

   c. Sweep-down powder may be uniformly and continously blended into the subsequent days production unless obviously scorched or dirty.

d. Dust house powder may not be blended.

e. There shall be no blending of low grade or off grade powder, screenings or rejected powder, other than that rejected for moisture not in excess of 7 percent into powder identified by the Department legend.

6. All powder shall be sifted through a No. 16 Mesh screen (U. S. Bureau of Standards) and such screens shall be replaced whenever torn.

7. Accumulations of large particles or lumps of dried eggs shall be removed from sifter screens continuously or at hourly intervals.

8. All powder shall be cooled to 85°F. or below (except a tolerance of 3°F. will be permitted) within one hour after being removed from the drier.

9. Drying units shall be brushed down thoroughly daily and washed, rinsed and sterilized at least once each week. Bags from bag collectors shall be dry cleaned or laundered not less than once each month.

IX Flake Process Drying

1. The fermentation, drying, and curing rooms shall be kept in a dust free clean condition and free of flies, insects and rodents.

2. Drying units, racks and trucks shall be kept in a clean and sanitary condition.

3. Fermentation tanks, drying pans, trays or belts if used, scrapers and curing racks if edible product comes into contact with rack, shall be kept in a clean condition, and should be washed, rinsed and sterilized after each use.

4. Oils and waxes used in oiling drying pans or trays shall be of edible quality and applied by a spray process.

5. Equipment used for pulverizing or sifting dried albumen shall be kept in a clean condition.

X Packaging Rooms (on or off the Premises)

1. Packaging rooms shall be kept in a clean condition free of flies, insects and rodents.

a. Package liners shall be inserted in a sanitary manner.

b. Equipment used in packaging dried eggs shall be kept clean at all times and whenever contaminated it shall be washed, rinsed and sterilized. When not in use scoops, brushes, tampers, etc.,

shall be stored in cabinets or on racks provided for this purpose.

XI Dried Egg Storage

1. Dried egg storage space shall be kept dry, clean and free from foreign odors.

2. Spray process dried whole eggs and yolks shall be placed under refrigeration at or below 50°F. within 24 hours after manufacture, either in a warehouse or in a refrigerated car or truck.

   a. In cases where the commodity is stored off the premises, an additional 24 hours will be allowed for Sundays or holidays, but wil be premitted only when it is impossible to obtain storage facilities on these days.

   b. Dried egg storage space should be maintained at an atmospheric temperature of 50°F. or less. Products not identified by the Department legend shall be stored in a specifically designated and segregated section of the storage room.

      All such product shall be plainly marked and properly identified.

3. Flake process dried albumen (fermented) should be stored at room temperature.

19-WASHING AND STERILIZING REQUIREMENTS

The bactericidal solution referred to in the following requirements shall be:

A hypochlorite or other approved bactericidal solution, carrying a minimum original strength of 100 p.p.m. of available chlorine or equivalent. The solution shall be changed whenever the strength of this solution drops to 50 p.p.m. of available chlorine or equivalent.

I. Floors:

Shall be scrubbed with water containing washing compound, rinsed with clean water and squeegeed.

II. Trash cans, inedible egg containers, shell cans:

Shall be scrubbed with water containing washing compound, rinsed with clear water and sprayed or flushed with bactericidal solutions.

III. Candling Benches, Service Shelves, Breaking and Service Tables:

Shall be washed with water containing washing compound solution sprayed with bactericidal solution, and rinsed or flushed with clear water under pressure.

IV. Dirty Shell Eggs:

1. Shall be washed in water warmer than the egg and shall not be soaked.

2. Rinsed by being placed in wire baskets or equivalent and immersed in or sprayed with clear warm water.

3. Sterilized by immersing in a warm bactericidal solution for not less than two minutes.

Or: Washed by means of a mechanical egg washing machine which has been approved by an authorized representative of the U.S.D.A.

V. Belt Flight or Apron Shell and Shell Egg Conveyors:

Shall be flushed with clear cool water under pressure. Scrubbed with water containing washing compound, rinsed with clear water and sprayed with a bactericidal solution.

Worm Type Shell Conveyor:

Shall be flushed with clear water under pressure while in operation to remove adhering egg material and shells and sprayed with bactericidal solution.

VI.

Shell egg pails	Spoons	Spray nozzles (including orifices
Leaker trays	Trays	Cores
Knives	Tray racks	Whizzers):
Cups	Liquid egg pails	
Separators	Albumen drying pans or trays and scrapers	

Shall be washed in warm water containing washing compound, rinsed with cool or luke warm clear water and sterilized by immersing in bactericidal solution for not less than one minute.

VII.

Low pressure pumps	Hashers	High pressure lines:
Liquid egg lines	Preheaters	
Homogenizers	High pressure pumps	

Shall be flushed with cool water, dismantled, brushed with washing compound solution and rinsed with clear cool water. Within two hours prior to use equipment shall be reassembled and flushed with a bactericidal solution for not less than one minute.

VIII.

Dump tanks	Liquid egg cooling units	Liquid cans or drums
Churns	Draw-off tanks	Tank trucks
Clarifiers and strainers	Holding tanks	Crushers
	Fermentation tanks	Albumen drying belts or racks

Shall be flushed with cool water under pressure, brushed with washing compound solution, rinsed with clear cool water and sprayed or flushed with a bactericidal solution just prior to use.

IX. Spray Process Drying Units:

Shall be washed with warm water containing the proper amount of any *suitable cleanser or washing compound, flushed or rinsed with cool water and sterilized by heating at 250° - 300° F. for approximately 1/2 hour.

* Acid base cleaning compounds should be used for washing plastic-coated or lithcoted surfaces.

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MINIMUM TENTATIVE REQUIREMENTS for OPERATION, FACILITIES, AND SANITATION in DRIED EGG PACKAGING PLANTS

September, 1946

A. Receiving and Delivery Rooms or Platforms:

1. Sufficient space and adequate facilities for receiving and shipping the powder shall be available at the plant.

2. Rooms and platforms used for this purpose shall be kept dry and free from rubbish, refuse, or other waste material.

B. Storage:

1. All storage rooms used for holding dried egg powder shall be kept dry, clean, and free from mold or objectionable odors, rodents and other contaminating influences, and at an atmospheric temperature not above 85 degrees F. All bulk containers shall be kept covered.

C. Hopper and Packaging Rooms:

1. The hopper room shall be separated from the packaging room. Both rooms must be separated from all other operations in the plant which may be a source of contamination to the product.

2. All rooms where the powder is exposed to air should be in good repair, rodent proof, and free from conditions which constitute a source of insects, vermin, or odors. All windows that may be opened and outside doors, shall be screened. All doors leading to rooms where powder is dumped or packaged shall be provided with automatic closing devices -- and these doors must be kept closed when not actually in use.

2a. In the event powder containing brush bristles or fibers, hairs, glass, pieces of paper, etc., is found, the powder shall be set aside and called to the attention of the inspector. The contractor will instruct all employees engaged in dumping powder into hoppers that care shall be taken to prevent powder containing any foreign materials from being packaged.

3. Both the hopper and packaging rooms should be equipped with intake fans and filters to provide fresh filtered air; the temperature in these rooms must be maintained at not over 85 degrees F.

4. Walls and ceilings should not have cracks, open ledges or rough surfaces which form pockets for an accumulation of dust or dirt. Ceilings and walls should be painted. Floors shall be concrete or cement, tile,

or approved construction, and should be provided with ample drainage facilities. All rooms shall be so constructed as to permit thorough cleaning.

5. Adequate space must be provided in each room so as to avoid congestion, and ample lighting shall be available over the entire operation.

6. The entire operation shall be conducted in a sanitary manner. A clean-up shall be provided after each operating shift, or oftener if required. The floor shall be kept free of waste powder, cartons, liners or other refuse. A thorough cleanup, including the walls and ledges, at least once every week shall be required. Close attention should be given to points of equipment where residues of powder may accumulate.

7. No bottles or glass materials of any kind shall be permitted in packaging or hopper rooms.

D. Hopper Equipment:

1. Hoppers, chutes, bins and attachments thereto, used in packaging operations which come in contact with the powder, must be made of approved metal. The openings of all hoppers and bins into which powder is dumped shall be well above floor level. The metal surfacing shall be smooth, without open seams, and shall be so constructed as to permit thorough cleaning after each shift or as required.

2. The powder shall be screened at the hopper to catch any foreign material. It is recommended that nothing larger than a 2 mesh screen be used. Any shovels, paddles, scrapers or other equipment used in handling powder must be of approved metal and shall be properly stored when not in use, and shall not be used for any other purpose than that of handling dried egg powder.

3. A container must be provided in the hopper room for waste powder and sweepings.

E. Packaging Equipment:

1. All equipment shall be cleaned before and after every shift with a light, non-shedding bristle brush or air hose and gone over thoroughly with a vacuum cleaner if available. The floors shall be cleansed at least once each week, or oftener if operations permit, or as required.

2. Sanitary containers shall be provided at packaging lines, for recovery of overflow powder. Special containers with covers must be provided for waste powder and sweepongs. Containers shall be well marked either in large lettering, or with the use of different colored paints.

3. Sealed scales shall be provided for weighing individual packages. Facilities for weighing shall be a stationary item of each packaging line at a point where each open package must pass, and shall be utilized by an employee familiar with the weight requirements at all times that the line is in operation.

3a. All individual containers must be reasonably free from loose powder or dust before overwrapping of cartons, labelling of cans, or packing will be permitted.

F. Waste Powder:

1. Waste powder shall be screened through not larger than a #2 mesh screen stored in liner-equipped barrels, and headed up when full. The barrel number, gross, net and tare weight shall be clearly marked on each barrel and in addition the words "Inedible Dried Egg Powder". A record of all such barrels shall be maintained by the contractor, and when shipped, they should move in the order accumulated. For weekly inventory purposes, only filled barrels need be counted.

G. Operating Requirements:

1. The inspector will require that all phases of the operation be sufficiently manned at all times by plant personnel in order that contract requirements be maintained. In the event additional help is required due to unforseen or unusual conditions arising, or a shortage of labor exists, such portions of the operation as are affected will be curtailed until proper correction is made.

H. Personnel and Personnel Facilities:

1. Adequate facilities, including toilets, lavatories, lockers and dressing rooms, should be provided in proper relation to the number of employees in the plant. Such rooms shall be maintained in a sanitary condition at all times and shall be provided with towels, toilet paper and soap. Such rooms shall not open directly on packaging or powder storage rooms. Lavatories shall be provided with hot water and shall be connected with drains.

2. No person afflicted with any infections, contagious, or communicable disease or who is a carrier of such disease, shall be permitted to come in contact with the powder or with any equipment used in packaging.

3. Each and every plant worker should have a thorough medical examination at least once a year, made by a registered physician and such certificate should be available at all times. Each new employee should be similarly examined before starting work.

4. All workers coming in contact with the dried eggs shall wash their hands before beginning work, and upon returning to work after going to the washroom.

5. All workers coming in contact with the dried eggs or packaging equipment, shall wear clean garments.

6. Hair nets or caps shall be worn by all persons employed in the packaging room at all times during operations. The use of tobacco while on duty by workers coming in contact with the products, shall not be permitted. Expectorating or other unsanitary or careless practices shall not be permitted.

7. These requirements shall not excuse failure to comply with any applicable state or local laws or regulations.

8. Provisions shall be made for desk and file storage facilities for the use of the inspectors and such laboratory room and equipment as shall be required for palatability testing. Provisions shall also be made for the opening and closing of bulk containers for sampling, including such labor as may be necessary.

POULTRY BRANCH